

LONG WAVELENGTH QUANTUM WELL INFRARED PHOTODETECTOR FOCAL PLANE ARRAYS

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ABSTRACT

Long wavelength infrared (LWIR) detectors are of a great interest for variety of space-borne applications. These space applications have placed stringent requirements on the performance of the infrared detectors and arrays including high detectivity, low dark current, uniformity, radiation hardness and lower power dissipation. I will discuss the development and progress of large area (e.g., 512x512) $\text{Al}_x\text{Ga}_{1-x}\text{As}/\text{GaAs}$ LWIR quantum well infrared photodetectors focal plane arrays to meet those stringent requirements. The research described in this paper was performed by the Center for Space Microelectronics Technology, Jet Propulsion Laboratory, California Institute of Technology, and was jointly sponsored by the Ballistic Missile Defense Organization/Innovative Science and Technology Office, and the National Aeronautics and Space Administration, Office of Space Access and Technology.